II) IN THE SPECIFICATION:

1. Replace the section on PAGE 1, LINES 9-15 with the following:

Related Application Data

This application is a ~~continuation-in-part of~~ continuation application of copending application Ser. No. 09/633,932, filed on August 8, 2000, which is a continuation of Ser. No. 09/232,908, filed on January 15, 1999, now U.S. Patent No. 6,199,048, which is divisional application of application Ser. No. 08/538,365, filed on Oct. 3, 1995, now U.S. Pat. No. 5,978,773, which claims priority of provisional Application Ser. No. 60\000,442, filed on Jun. 20, 1995, and entitled "Method and Apparatus for Interfacing with Remote Computers" (hereinafter, "our copending application"), the disclosure of which is hereby incorporated by reference in its entirety.

2. MARKED-UP REPLACEMENT PARAGRAPH: PAGE 5, LINES 7-14:

The present invention offers a better way for consumers and others to access resources on remote computers, particularly Web sites. In accordance with one aspect of the invention, the dissemination and entry of network addresses is accomplished by means of existing identification standards (e.g., bar codes) found on ordinary products like soup or soda, in conjunction with a centralized database of network locations.

3. MARKED-UP REPLACEMENT PARAGRAPH: PAGE 8, LINES 23-27:

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Local host ~~computer~~ 28 need not be a personal
computer, and could for example be a mainframe or
minicomputer having a terminal by which the user could
enter and receive data. In that arrangement, input device
44 would be attached to the terminal.

**4.   MARKED-UP REPLACEMENT PARAGRAPH: PAGE 8, LINE 28 –
PAGE 9, LINE 4:**

Modem 36 is adopted for electronic communication via a
suitable telephone link 50 with service provider 22. <u>Local
host</u> ~~Computer~~ 28 functions as an Internet host because it
is connected to service provider 22 using Point to Point
Protocol ("PPP") via telephone link 50. Other
telecommunications channels may be used, such as ISDN or a
connection which incorporates a third party intermediary
network such as TymNet.sup. sm. Alternatively, local host
28 could be connected directly to Internet 20, as is likely
to be the case where local host 28 is a larger computer,
such as mainframe. FIG. 2 offers a perspective view of
local host 28 and article of commerce 48 and also
illustrates a CRT monitor 52 and keyboard 54 suitably
coupled to bus 34.

5.   MARKED-UP REPLACEMENT PARAGRAPH: PAGE 9, LINES 13-23:

Remote notes 24 and 26 have pre-assigned network
locations (or "domain names"), and desired resources (such
as a particular Web site) are located in specific
directories and files (or "paths") resident on ~~a~~ remote
nodes <u>24 and</u> 26 ~~and 28~~. The precise locations of those

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resources are specified using URL, which, as explained above, includes three fields: < resource type > < domain name > < path >. To access resources of a particular remote node 24 or 26, local host 28 requests those resources from Internet 20 using the appropriate URL. Thus, the URL functions as a more precise kind of network address than a domain name.

6. MARKED-UP REPLACEMENT PARAGRAPH: PAGE 9, LINE 33 – PAGE 10, LINE 18:

In accordance with the invention, access to desired resources on remote nodes 24 and 26 is achieved using an article of commerce 48. The term "article of commerce" includes tangible things that are sold or moved through commerce, such as consumer products, packaging, and printed media including books, newspapers, magazines, stickers, fliers, cards, tags and labels. Article of commerce 48 bears a standard UPC bar code symbol or indicia 46. UPC bar code symbol ~~Symbol~~ 46 is shown in greater detail in FIG. 3, and may be affixed to article of commerce 48 in any suitable manner, including printing directly on the article or its packaging, or applied to labels or tags attached or otherwise affixed to the article. In accordance with UPC standards, UPC bar code symbol 46 encodes a ten-digit number (the "product identification number"). As shown in FIG. 3, the product identification number encoded in UPC bar code symbol 46 consists of two five-digit fields, A and B. Field A is a unique, pre-assigned number signifying a particular manufacturer. Field B is a number identifying one of the manufacturer's products. In the United States, UPC product identification numbers are assigned by the

Uniform Code Council, Inc.

7.MARKED-UP REPLACEMENT PARAGRAPH: PAGE 10, LINES 19-23:

UPC bar code symbol 46 provides a machine-readable number that uniquely identifies a particular product and its manufacturer. This is useful at the retail point-of-sale, where purchase of a particular item is recorded by scanning the item's bar code symbol.

8. MARKED-UP REPLACEMENT PARAGRAPH: PAGE 12, LINE 32 - PAGE 13, LINE 9:

Database 60 itself is accessible via service provider 22, which is equipped with Web server software such as provided by Netscape Communications, Inc. The server software provides access to an HTML document (the "Query Page") resident on service provider 22 at a predetermined URL. The Query Page, when displayed on CRT 52 by local host 28 using a forms-capable browser allows the user to enter a query in the form of a UPC product identification number. Alternatively, database 60 could be resident on local host 28 or another remote computer 24 or 26. The Web server at service provider 22 may have a predetermined URL location. Browser software resident in local host ~~computer~~ 28 may be configured to automatically request that predetermined URL location when the browser software is initially loaded.

9. MARKED-UP REPLACEMENT PARAGRAPH: PAGE 13, LINE 32 - PAGE 14, LINE 5:

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Suppose a user is interested in Internet resources concerning a particular type of product. In accordance with the invention, the user can access those resources by taking an ordinary specimen of the product -- a can of soup for example -- and entering all or part of the product's UPC <u>bar code symbol or </u>product identification number 46. Database 60 uses the entered product identification number to look-up the associated URL, which is returned to the user in the form of a HTML document.

10. MARKED-UP REPLACEMENT PARAGRAPH: PAGE 14, LINES 6-14:

This operation is illustrated in FIG. 5. At a block 80, the user loads his browser software onto local host ~~computer~~ 28. The browser software is programmed to automatically load the "Query Page" which provides access to database 60. The user in this case is a human, but alternatively a program (or "process") running on local host 28 could be the "user" in the sense that it is the process which is requesting information from the Internet and supplying the UPC number.

11. MARKED-UP REPLACEMENT PARAGRAPH: PAGE 14, LINES 15-32:

At a block 82, the Query Page is transmitted to local host ~~computer~~ 28 in the form of an HTML document. Browser software resident on local host 28 displays the Query Page on CRT screen 52. At block 84, the user (or process) enters the first five or all ten digits of the UPC product identification number encoded by <u>UPC bar code </u>symbol 46. Because the UPC product identification number is printed in both machine- and human- readable format (See FIG. 3), this

may be done by manual entry using keyboard, voice recognition system or other input device. More preferably, however, entry is accomplished by scanning UPC <u>bar code</u> symbol 46 affixed to article <u>of commerce</u> 48. Input device 44 reads UPC <u>bar code</u> symbol 46, and generates an ASCII character string which is read by CPU 30 via I/O port 38. If the UPC number is scanned, then all 10 digits will generally be entered. The UPC product identification number is transmitted to the Web server resident on local service provider 22, which at a block 86 looks up the entered UPC number in database 60.

12. MARKED-UP REPLACEMENT PARAGRAPH: PAGE 15, LINES 23-31:

At block 90, browser software on local host ~~computer~~ 28 displays records retrieved at block 88 on CRT 52. The records are returned in an HTML document, which is displayed by the browser in a screen format 94, as illustrated in FIG. 6. In this example, records 62, 64 and 66 have been retrieved. Screen format 94 displays data from each record in a separate rows 96, 98 and 100, respectively. If no matching records are found at block 88, a message such as "no records found" may be returned instead.

13. On Page 5, line 27, after "network", insert the following new paragraphs:

<u>In accordance with another aspect of the invention, network addresses are directly encoded into bar code format. In this manner, the necessity of manually entering the address is eliminated. Users can more quickly review</u>

published lists of Web Sites or other locations. The bar-coded address can also be printed on removable stickers or detachable cards, allowing users to readily clip the stickers or cards for future reference.

In accordance with yet another aspect of the invention, navigational commands (in addition to addresses) can be published together in both human-readable and bar code formats. These commands include common commands such as 'back" and "forward," as well as more specialized command sequences, such as the commands necessary to access particular services, files, and documents on the Internet or the proprietary on-line services. Rather than manually enter these commands, the user selects a desired command by scanning its associated bar code. The output of the bar code reader is accepted by the browser software as the selected command.

14. On page 7, line 20, after "computers" insert the following new paragraphs:

FIG. 8 is a block diagram of a computerized apparatus for interfacing with a computer network in accordance with a second embodiment of the invention.

FIG. 9 is an idealized perspective of the document of FIG. 8 having a network address in both bar code and human readable formats.

FIG. 10 is a flow chart illustrating the operation of the apparatus of FIG. 8 in accordance with the invention.

15. On page 18, line 7, after "address" insert the following new paragraphs:

An example of the direct coding of network addresses is shown in the illustrated FIGS. 8-10. Referring to FIG 8, a block diagram of the computerized apparatus 10 for interfacing with a computer network in accordance with the invention is illustrated. Apparatus 113 includes a computer 114, which may be an IBM compatible personal computer. Attached to computer 114 by a suitable input/output interface 115 is a modem 116. Also attached to computer 114 via an -input/output interface 118 is a bar code reader 120. Bar code reader 120 is designed to read conventional bar codes. Bar code technology is described generally in U.S. Pat No. 5,115,326 issued May 19, 1992 and entitled "Method of Encoding an E-Mail Address in a Fax Message and Routing the Fax Message to a Destination and Network", and No. 5,420,943 issued May 30, 1995 and entitled "Universal Computer Input Device," the disclosures of which are both hereby incorporated by reference.

Modem 116 is adopted for electronic communication via a suitable telephone link 122 with a service provider 124. Service provider 124 may be an Internet service provider or a proprietary on-line service such as Prodigy or America On-Line. Service provider 124 in turn is electronically connected by a suitable communication link 126 to a remote server 128. For purposes of illustration, we assume that remote server's 128 numeric network address is 200.98.154, and that the assigned address mnemonic is http://sample@www.com.

Computer 114 is equipped with communication software for establishing and maintaining a communication link with service provider 124 via modem 116 and telephone link 122. Computer 114 is also equipped with software (see FIG. 10) such as Netscape Navigator brand Web browser software (version 1 0) which enables it to request and receive information from remote server 128 via service provider 124. To operate software 130, a user (not shown) enters an alphanumeric address such as sample@www.com. Browser software 130 sends service provider 124 a request for the information contained at address corresponding to the mnemonic sample@www.com. As explained above, that mnemonic address belongs to remote server 128.

Using the address sample@www.com, service provider 124 routes the request to remote server 128 via communication link 126. Remote server 128 responds by sending the desired information via communication link 126 to service provider 124, which relays the information to computer 114 via modem 116 and telephone link 122. Once the information is received by computer 114, browser software 130 displays the information in a useful format for the user.

In accordance with the invention, a document 132 is provided. Document 132 may be a magazine article, advertising or other printed matter. As shown in FIG 9, Document 136 contains human readable information 134 about resources available at a location on a network such as the Internet, including resources provided by remote server 128. In this example, human readable information 134 includes remote server's 128 mnemonic address -

http://sample@www.com. A bar-code indicia 136 is placed
near human readable information 134. Bar code 136 contains
remote server's 128 numerical address (200.98.154) in
machine-readable form.

Alternatively, bar code 136 could contain a machine-
readable version of the mnemonic address. Under that
arrangement, the bar-coded digits would correspond to
alphanumeric symbols of the mnemonic address. For example,
the bar coded number "97" could correspond to the character
"a". In that case, however, bar code 136 may have to be
exceptionally long.

If the user wants access remote server 128, he or she
scans bar code 136 using bar code reader 120. Bar code
reader 120 generates a signal on input/output interface 118
corresponding to the numeric address encoded by bar code
136 (which for purposes of illustration we assume to be
257004-00220, as shown in FIG. 9). Browser software 130 on
computer 114 reads the numeric address via input/output
interface 118, and forwards it to service provider 124,
along with a request for information contained at the
location corresponding to that address. Service provider
124 determines that the numeric address is that of remote
server 128, and routes to there the request for
information.

Referring to FIG. 10, the operation of browser
software 130 is shown in more detail. In an initial step
138, browser software attempts to read input from bar code
reader 120. At a decision block 140, browser software 130
determines whether reader 120 has input. If no input is

available, control returns to block 138, where browser software 130 again attempts to read bar code reader 120. If input is available at decision block 140, then control moves to a block 142 where browser software 130 transmits the input read at block 138 to service provider 124. There are other ways to handle input from bar code reader 120, and more sophisticated techniques maybe used in actual commercial embodiments of the invention.

Service provider 124 interprets the input as a numeric network address. In this case, we have assumed that the address is that of remote server 128. Service provider forwards a request for data to remote server 128. At a block 144, the requested data contained on remote server 128 is received by browser software 130 via service provider 124. Once received, the data is available for whatever use required by the user. Control then returns to block 138 where the foregoing process is repeated indefinitely.

In effect, the necessity of manually typing in the mnemonic address sample@www.com is eliminated. Instead, the numeric address is obtained from the bar code indicia 136 by use of bar code reader 120. As explained above, bar code 136 could contain the mnemonic as well as numeric address. Browser software could be programmed to accept either format (mnemonic or numeric) as input from bar code reader 120, with the default expectation being that the bar coded data is a numeric address unless the user otherwise specifies. Alternatively, the first coded number of bar code 136 could indicate whether the information that follows represents a numeric or mnemonic address. If bar

code 136 can contain either mnemonic or numeric addresses, then browser software should include a flag or other indication alerting service provider 124 as to the format of the transmitted data.

The foregoing embodiment is just one example. Many alternatives are possible. For example, in lieu of a bar code scanning device, a card reader could be employed. The card reader would read a magnetic stripe affixed to a card or other printed matter. The card would contain human-readable information about a network resource, and the magnetic strip would contain the resource's numeric or mnemonic address in machine-readable format. Alternatively, a RF data collection scanner or CCD scan- system could be used. Bar code symbol 126 could also be associated with specific commands such as "forward", or "back," or command sequences used to access information.